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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/505,342	06/24/2005	Takayuki Matsushima	17155/003001	5910

22511 7590 05/01/2007

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EXAMINER	
GOFF II, JOHN L	

ART UNIT	PAPER NUMBER
1733	

MAIL DATE	DELIVERY MODE
05/01/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/505,342	MATSUSHIMA ET AL.	
	Examiner	Art Unit	
	John L. Goff	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 August 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 August 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *8/20/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 1 requires "arranging an adhesive, containing a thermosetting resin and a first curing agent, at least on said second electrode, to form an adhesive layer" and "tightly contacting said adhesive on said first object for bonding with said second curing agent on said second object for bonding". It is unclear how the tightly contacting step is performed as the adhesive was applied to the second electrode of the second object and not the first electrode of the first object in the arranging step. However, a review of applicants specification makes clear the arranging step is to arrange the adhesive on the first electrode of the first object (Figures 5-8 and specification pages 9-12), and this is the interpretation given the claim. It is suggested applicants amend claim 1, line 7 to delete "second" and insert therein - - first - - to overcome the rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1, 2, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP09330947 (See also the machine translation and abstract) in view of JP07082533 (See also the machine translation and abstract).

JP09330947 disclose a method for producing an electrical device comprising arranging an adhesive layer (5 of Figure 1) containing a curable resin and electrically conductive particles (4 of Figure 1) on a first electrode (3 of Figure 1) of a first object (7 of Figure 1), arranging an adhesive layer (6 of Figure 1) on a second electrode (2 of Figure 1) of a second object (1 of Figure 1), positioning the first and second electrodes of the first and second objects in register with each other, tightly contacting the adhesive layer on the first object with the adhesive layer on the second object, thrusting the first and second objects against each other to interconnect the first and second electrodes via the electrically conductive particles (Figures 2-4), and allowing the curable resin to be polymerized by heating (See Figures 1-4 and the abstract and paragraphs 10-14 of the machine translation). JP09330947 does not teach the adhesive layer arranged on the first electrode contains an epoxy resin and a first curing agent and the adhesive layer arranged on

the second electrode contains a second curing agent. However, there is no specific disclosure in JP09330947 of the use of any particular adhesives other than the adhesive include a heat curable resin. JP07082533 disclose an adhesion method for producing an electronic device comprising arranging an adhesive layer containing a heat curable epoxy resin, a first curing agent of a silane coupling agent, and electrically conductive particles on a first object to be bonded, arranging an adhesive layer containing a second curing agent which is to be reacted with the first curing agent by heating to polymerize the epoxy resin on a second object to be bonded, and thrusting the first and second objects against each other with the adhesive layer therebetween, and allowing the heat curable epoxy resin to be polymerized by heating (See the abstract and paragraphs 7-13 and the examples of the machine translation). JP07082533 teaches the application of the adhesive layers in this manner provides the adhesive with a long shelf life, the adhesive is cured at a low temperature, and the first and second objects are strongly bonded (See paragraphs 4 and 30 and Table 1 of the machine translation). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the adhesive layers arranged on the first and second electrodes in JP09330947 the adhesive layers arranged on the first and second objects taught by JP07082533 wherein the adhesive has a long shelf life, the adhesive is cured at a low temperature, and the first and second electrodes are strongly bonded.

7. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP09330947 and JP07082533 as applied to claims 1, 2, and 6 above, and further in view of Isshiki et al. (U.S. Patent 5,872,194).

JP09330947 and JP07082533 as applied above teach all of the limitations in claims 3 and 4 except for a teaching that the second curing agent is mainly composed of an aluminum chelate.

JP07082533 are not limited to using any particular curing agent other than suggesting a heat activated latent hardener such as sulfonium salts. It is well taken in art of curing epoxy resins using a curing agent which is a heat activated latent hardener that either one of aluminum chelates or sulfonium salts may be used as shown by Isshiki et al. (Column 6, lines 52-58 and Column 7, lines 32-51). Absent any unexpected results, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the second curing agent in JP09330947 as modified by JP07082533 an aluminum chelate which was a known heat activated latent hardener that is functionally equivalent to sulfonium salt as shown by Isshiki et al.

8. Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP09330947 and JP07082533 as applied to claims 1, 2, and 6 above, and further in view of Koyama et al. (U.S. Patent 5,384,197).

JP09330947 and JP07082533 as applied above teach all of the limitations in claims 3 and 5 except for a teaching that the second curing agent is mainly composed of an aluminum alcoholate. JP07082533 are not limited to using any particular curing agent other than suggesting a heat activated latent hardener such as sulfonium salts. It is well taken in art of curing epoxy resins using a curing agent which is a heat activated latent hardener that either one of aluminum alcoholates or sulfonium salts may be used as shown by Koyama et al. (Column 9, lines 20-68 and Column 10, lines 1-4). Absent any unexpected results, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the second curing agent in JP09330947 as modified by JP07082533 an aluminum alcoholate which was a known heat activated latent hardener that is functionally equivalent to sulfonium salt as shown by Koyama et al.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **(571) 272-1216**. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John L. Goff
Patent Examiner
Art Unit 1733